



# Launch Mission Execution Forecast

**Mission:** Falcon 9 Axiom-1

**Issued:** 5 April 2022 / 0830L (1230Z)

**Valid:** 8 April 2022 / 1112 - 1122L (1512 - 1522Z)



**Forecast Discussion:** High pressure has moved east of Florida, creating southwesterly flow that brings warm, moisture-laden air to Central Florida. This set up, coupled with cool temperature aloft and a series of low pressure areas that develop in the Eastern U.S., will create scattered afternoon and evening thunderstorms along the Space Coast for the next few days. On Thursday, a strong cold front will move across the Spaceport late in the evening, finally ending the unstable conditions. This regime change will be immediately noticeable Friday morning with cooler, drier air filtering in through the day. The primary launch weather concern Friday is any lingering mid-level cloudiness. Maximum upper-level winds will be from the southwest at 120 knots near 40,000 feet.

On Saturday, a strong high pressure area will continue to build in, bringing gusty winds, with partly cloudy skies, lows in the 50s and high in the 70s. The primary launch weather concern Saturday will be liftoff winds. Maximum upper-level winds will be from the southwest at 140 knots near 40,000 feet.

Expect a spectacular day Sunday with high pressure moving over the Florida peninsula weakening the winds. The primary weather concern remains liftoff winds in the event the high pressure center is a little slow moving into Florida. Maximum upper-level winds will be from the west at 80 knots near 35,000 feet.

Launch Day	Probability of Violating Weather Constraints <sup>1</sup>							
	30%	Primary Concerns: Thick Cloud Layer Rule						
	Weather Conditions					Additional Risk Criteria <sup>2</sup>		
	Weather:	None	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Moderate
	Visibility:	7 miles	Altostratus	Scattered	15,000	18,000	Ascent Corridor Recovery:	Moderate
24-Hour Delay	Temp/Humidity:	70°F / 70%	Cirrostratus	Scattered	30,000	32,000	Booster Recovery Weather:	Moderate
	Liftoff Winds (200'):	320° 12 - 17 mph					Solar Activity:	Low
	Probability of Violating Weather Constraints							
	20%	Primary Concerns: Liftoff Winds						
	Weather Conditions					Additional Risk Criteria		
48-Hour Delay	Weather:	None	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Moderate
	Visibility:	7 miles	Cirrostratus	Scattered	30,000	32,000	Ascent Corridor Recovery:	High
	Temp/Humidity:	64°F / 60%					Booster Recovery Weather:	High
	Liftoff Winds (200'):	340° 17 – 22 mph					Solar Activity:	Low
	Probability of Violating Weather Constraints							
Notes	<10%	Primary Concerns: Liftoff Winds						
	Weather Conditions					Additional Risk Criteria		
	Weather:	None	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Visibility:	7 miles	Cirrus	Few	28,000	30,000	Ascent Corridor Recovery:	Moderate
	Temp/Humidity:	60°F / 50%					Booster Recovery Weather:	Low
Liftoff Winds (200'):		360° 10-15 mph				Solar Activity:		Low
<div>1. The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime during the launch window.</div> <div>2. Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor.</div> <div>See <a href="https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf">https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf</a> for more information</div>								

Next Forecast Will Be Issued 6 April 2022